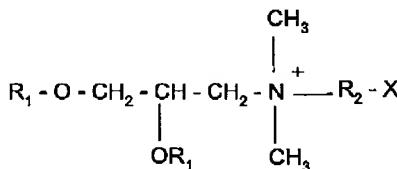


PATENT  
454313-3154.2

Please amend the claims without prejudice, without admission, without surrender of subject matter, and without any intention of creating any estoppel as to equivalents, as follows.

In the Claims:

1. (Amended) A method for obtaining an immunogenic response comprising administering to a bovine or porcine:
  - (a) a DNA vaccine or immunogenic or immunological composition against a pathogen of a bovines or porcines, wherein the DNA vaccine or immunogenic or immunological composition comprises comprising:
    - (i) a plasmid containing and expressing a nucleotide sequence encoding an immunogen of a pathogen of the bovine or porcine, under conditions allowing the *in vivo* expression of this sequence, and
    - (ii) a cationic lipid containing a quaternary ammonium salt, of formula



in which  $\text{R}_1$  is a saturated or unsaturated linear aliphatic radical having 12 to 18 carbon atoms,  $\text{R}_2$  is another aliphatic radical containing 2 or 3 carbon atoms, and  $\text{X}$  a hydroxyl or amine group, this lipid being preferably DMRIE, and optionally, DOPE and/or a GM-CSF protein of the bovine or porcine or a plasmid or expression vector which expresses the GM-CSF, and also optionally the nucleotide sequence encoding the immunogen is the sequence of a gene from which the part encoding the transmembrane domain has been deleted and/or the plasmid containing the nucleotide sequence encoding the immunogen also contains a nucleotide sequence encoding a heterologous signal sequence, preferably a tPA and/or the plasmid containing the nucleotide sequence encoding the immunogen also contains a stabilizing intron, preferably intron II of the rabbit beta globin gene;

and

- (b) an conventional (inactivated, attenuated live, subunit) or recombinant vaccine or

PATENT  
454313-3154.2

immunogenic or immunological composition against a bovine or porcine pathogen, wherein (a) and (b) are administered together in a combination, or sequentially, and sequentially can include a prime boost administration.

2-3. (Withdrawn)

4. (Amended) The method according to claim 1 wherein the nucleotide sequence Vaccine or immunogenic or immunological composition according to (a)(i) comprises a nucleotide sequence of BRSV.

5. (Amended) The method according to claim 4, wherein the Vaccine or immunogenic or immunological composition according to (a) comprises the sequence of the nucleotide sequence of BRSV encodes F antigen and/or G antigen gene optimized by substitution, by a signal sequence, in particular that of the tPA of human origin, of the signal sequence of the F or G protein of BRSV, and/or by the deletion of the DNA fragment encoding the transmembrane domain of F or G, or, the Vaccine or immunogenic or immunological composition according to (a) comprises DMRIE-DOPE, an expression plasmid encoding the F antigen of BRSV optimized by the insertion of the signal sequence of the human tPA in place of the signal sequence of F, and by the deletion of the fragment of the nucleotide sequence of F encoding the transmembrane domain and the contiguous C terminal part, and a second expression plasmid encoding the G antigen of BRSV optimized by the insertion of the signal sequence of the human tPA in place of the signal sequence of G, and by the deletion of the fragment of the nucleotide sequence encoding the transmembrane domain of G and the contiguous C terminal part.

6-15. (Withdrawn)

16. (Original) The method of claim 1 wherein (a) and (b) are sequentially administered, whereby there is a first administration of (b), followed by a subsequent administration of (a).

17. (Amended) The method of claim 16, wherein (b) is an conventional inactivated, attenuated live or subunit vaccine or immunogenic or immunological composition.

18. (Amended) The method of claim 1, wherein the vaccine Vaccine or immunogenic or immunological composition according to (a) further also comprises DOPE.

19. (Amended) The method of claim 1, wherein the vaccine Vaccine or immunogenic or immunological composition according to (a) additionally comprises a bovine or porcine GM-

PATENT  
454313-3154.2

CSF protein or an expression vector containing the gene and expressing a nucleotide sequence encoding the GM-CSF protein, under conditions allowing the in vivo expression of this sequence.

20. (Withdrawn)
21. (New) The method of claim 1, wherein the cationic lipid is DMRIE.
22. (New) The method of claim 1, wherein the nucleotide sequence encoding the immunogen has deleted therefrom a portion encoding a transmembrane domain.
23. (New) The method of claim 1, wherein the plasmid containing the nucleotide sequence encoding the immunogen further comprises a nucleotide sequence encoding a heterologous signal sequence.
24. (New) The method of claim 23, wherein the heterologous signal sequence is a tPA.
25. (New) The method of claim 1, wherein the plasmid containing the nucleotide sequence encoding the immunogen further comprises a stabilizing intron.
26. (New) The method of claim 25, wherein the stabilizing intron is intron II of rabbit beta-globin gene.
27. (New) The method of claim 1, wherein administration is sequential.
28. (New) The method of claim 27, wherein a prime boost regimen is used.
29. (New) The method of claim 5, wherein the nucleotide sequence of BRSV is optimized by substitution, by a heterologous signal sequence, of the signal sequence of the F antigen and/or G antigen of BRSV.
30. (New) The method of claim 29, wherein the heterologous signal sequence is from human tPA.
31. (New) The method of claim 5, wherein the nucleotide sequence of BRSV is optimized by deletion therefrom of a portion encoding a transmembrane domain of F antigen and/or G antigen.
32. (New) The method of claim 5, wherein the cationic lipid is DMRIE.
33. (New) The method of claim 32, wherein the vaccine or immunogenic or immunological composition of (a) further comprises DOPE.
34. (New) The method of claim 5, wherein the nucleotide sequence of BRSV encodes F antigen, and wherein the nucleotide sequence is optimized by:

PATENT  
454313-3154.2

- (a) insertion of human tPA signal sequence in place of F antigen signal sequence; and  
(b) deletion of the transmembrane domain and contiguous C-terminal portion.
35. (New) The method of claim 34, wherein the vaccine or immunogenic or immunological composition of (a) further comprises a second expression plasmid comprising a nucleotide sequence encoding BRSV G antigen, and wherein the nucleotide sequence encoding BRSV G antigen is optimized by:
- (a) insertion of human tPA signal sequence in place of G antigen signal sequence; and  
(b) deletion of the transmembrane domain and contiguous C-terminal portion.
36. (New) The method of claim 5, wherein administration is sequential.
37. (New) The method of claim 36, wherein a prime boost regimen is used.
38. (New) The method of claim 1, wherein the pathogen of a bovine or porcine in (a) and (b) are the same pathogen.